



Support Resistance Strength Analyzer

Thank you for your interest in the Support Resistance Strength Analyzer!

This unique indicator analyzes historical price data to identify horizontal support and resistance levels, as well as determines how strong they were based on how many times price reversed at those levels.

It doesn't provide trade entry and exit signals, but it may increase the chance of successful trades when combined with other methods designed to work at support and resistance levels, such as candle stick patterns or indicators which detect trend direction changes.

A support level is an area where price falls to and reverses direction from. A resistance level is just the opposite – price rises to a level and reverses downwards.



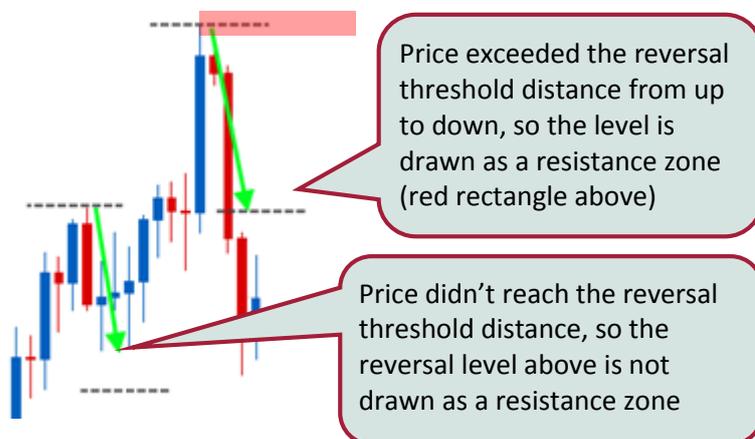
How it works

Support Resistance Strength Analyzer (SRSA) uses three concepts:

- reversal threshold
- support/resistance zone
- zone strength.

Reversal threshold

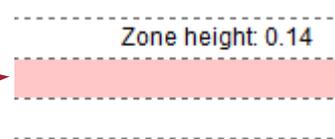
This is the minimum acceptable distance which price must move away from a level for it to be defined as a support or resistance zone. This value can be customized.



Support/resistance zone

Reversals usually occur within zones rather than at exact price levels. To accommodate this, SRSA divides the chart area vertically into zones of a specific height. These are displayed as rectangles when reversals occur within them. Zone heights can be customized and the zones can be shown using boundary lines.

A resistance zone (red) with dashed boundary lines displayed



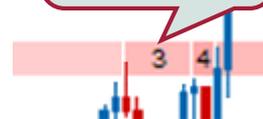
Zone strength

One of SRSA's powerful features is that it can count, and display, how often price reverses from support/resistance zones.

If price moves into a zone and reverses direction by at least the reversal threshold amount, then this is considered to be a successful reversal and the zone's support/resistance 'strength' is incremented by 1.

If price moves through a zone without reversing by the threshold amount, then it is considered a 'reversal failure' and 1 is subtracted from that zone's strength. Strength values go up and down based on reversal successes or failures and can be shown on the chart.

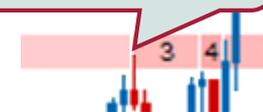
Strength value displayed in a resistance zone

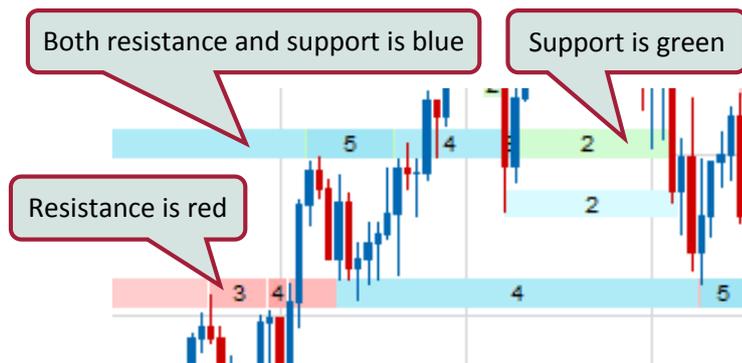


Reversals at support levels are calculated using a candle or bar's low. Highs are used to calculate reversals at resistance levels.

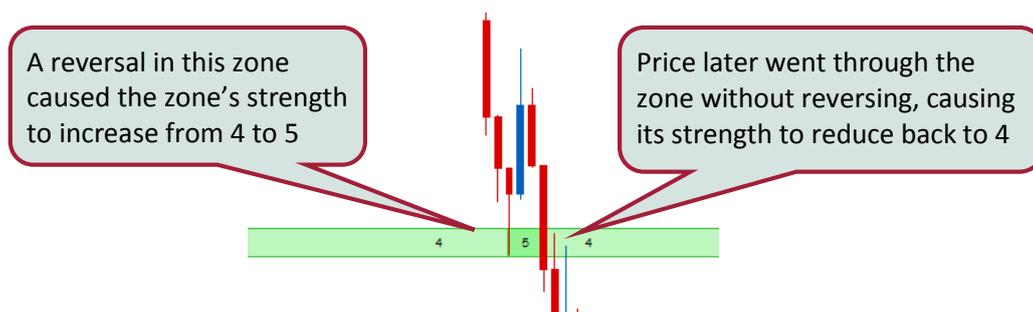
Candle highs are used to calculate reversals from resistance zones

Strength is represented by the intensity of a rectangle's color. Green is used for support, red for resistance and blue for areas which have recently acted as both support and resistance. On a light chart background, light green means weak support and a more intense green means stronger support. On a dark background, a dark color is weak and a brighter color is stronger. Remember that the size of a rectangle shows the *height* of a zone, *not* the strength.





A strength value has a minimum of 1 and no maximum. However, strengths of 5 and above are shown using the maximum intensity for that color. When a value reduces to zero, it is no longer shown on the chart and can't go lower than zero. You can turn 'Show strength values' on to view the actual values which will be written in each zone.



Definition of terms used in these instructions

These terms are used throughout the instructions and have specific meanings.

Zone: a colored rectangle which can be drawn on the chart defining an area used to measure price reversals.

Region: an area which has several overlapping zones of different heights.

Strength: the number of times that price has reversed by the threshold amount in a zone.

How to use SRSA

SRSA has three main settings which change how support/resistance zones are displayed. 'Single zone height only', 'Multi-zone heat map' and 'Both'.

☐ Calculation	
Mode	Both
Zone threshold	Single zone height only
Zone height	Multi-zone heat map
☐ Display	
	Both

Single zone height only

When the 'Mode' is set to 'Single zone height only', a single zone height is used for calculations and rectangles are displayed for one height only.

The zone height can be changed, as well as the size of the threshold needed to determine a reversal.

Increasing the zone height will enable a more macro analysis, as larger zones will likely encompass more reversals.

Zone height set to 'Small'



Zone height set to 'Very large'



Multi-zone heat map

Analyzing support/resistance regions is often time consuming because a number of price 'magnifications' need to be considered to increase the chance of finding significant zones. To address this, SRSA has incorporated the multi-range heat map display which does this automatically.

Setting 'Mode' to 'Multi-zone heat map' draws four different zone heights on top of each other from largest to smallest. It can provide a quick overview of where the strongest support/resistance levels may be.

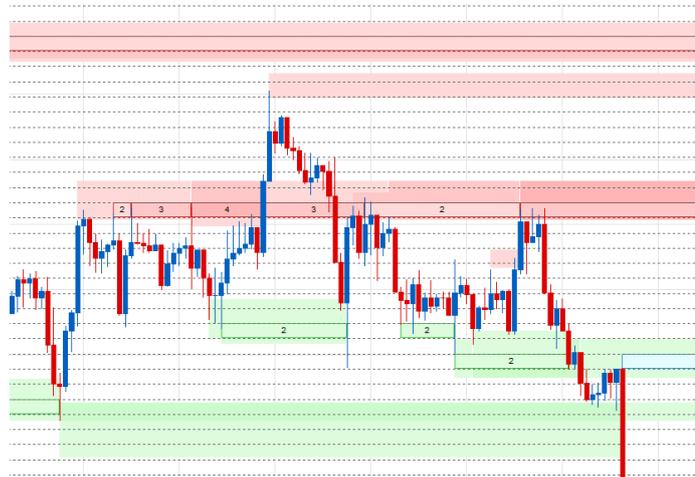
Different threshold settings and display options can be used (support, resistance, both, or all) with heat map mode, but zone boundary lines and strength values are not shown due to the overlapping nature of the different sized zones. Because all zone heights are displayed, changing the zone height setting won't have any effect with heat map.



Both setting

This setting will display a single range over the top of the multi-ranges. The multi-ranges show all four range heights and the single range shows one of those range heights with bordered rectangles, so you can examine it in more detail.

Later in this user manual, a suggestion is provided on how to analyse a chart using these settings.



Using zone threshold

Increasing the zone threshold size will require price to move further in the opposite direction before it is considered a reversal. Larger values display fewer reversals and tend to pick the levels which resulted in the larger moves.

Zone threshold set to 'Small (1 zone height)'



Zone threshold set to 'Very large (20% of entire vertical price range)'



Choosing 'Small (1 zone height)' will only require price to move by one zone height in the opposite direction for the move to be considered a reversal. The zone where the reversal occurred will be considered a support/resistance zone. This setting will likely give many zones.

Choosing 'Very large (20% of entire vertical price range)' will require price to move by 20% of the entire vertical price range of loaded data from the point of the reversal. This setting will likely give few, if any, zones.

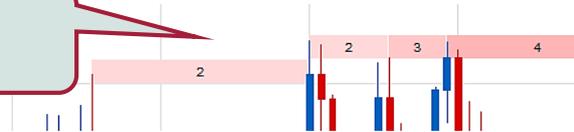
It is recommended that you experiment with this setting and choose a zone threshold to suit the size of moves you are looking for, and your trading style, and leave it at that setting.

Filtering zone strengths

The 'Minimum strength to display' setting allows you to filter which zones to display based on their strength value, from 1 to 4. One will display all zones and 4 will only show those with strengths of 4 and above.

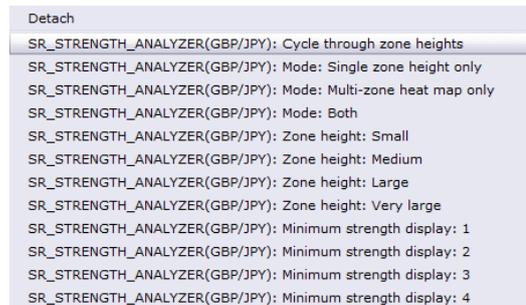
It is recommended to use at least 2 to avoid too many zones on the chart and to help you focus on the stronger ones, however you can use 1 if you want to see them all.

Only strengths of 2 and above are shown when 'Minimum strength to display' is set to 2



Contextual menu

Some of the most commonly used settings are available in a pop-up menu which can be accessed by right clicking anywhere on the chart.



Calculation line

The dotted vertical line near current price marks the place where zone calculations are up to for the single zone display. A certain amount of data is needed from the current bar, before calculations can be carried out, so it will update when enough data is available. Usually the larger zone heights and larger thresholds need more data to calculate.



When multi-range heat map is displayed, the line won't be shown, as different zone heights are calculated to different points.

How available price data changes zone appearance

SRSA uses all available price data to calculate zones. If you scroll a chart to the right to cause more price data to load, the indicator will use the new data and refresh all calculations causing zones to redraw. Some zones may disappear and new ones may form. This generally happens with the 'weaker' zones (strength 1 or 2). An area identified as a significant support/resistance region will likely remain or may just change size or more up or down as the chart adjusts to the new data.

The indicator divides the entire vertical price area into a set number of zones depending on the zone height you chose. If more data is loaded, or price makes new highs or lows, then the vertical range will increase and so will the zone heights after recalculation.

To improve consistency, it is recommended that you work with a similar amount of data each time you use that chart.

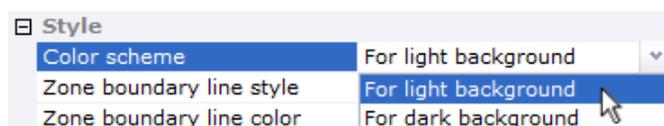
Thinking in terms of reversal regions rather than levels

As mentioned earlier, reversals tend to occur repeatedly in regions rather than at absolute price levels. The indicator can only draw zones with absolute upper and lower boundaries, but it is important to try to think in terms of support/resistance 'regions' rather than absolute values. To assist with this concept, SRSA provides the multi-zone heat map display to help identify strong regions where different sized zones overlap. Such a region is likely to remain even if some zones within it change due to recalculation.

Setting up SRSA

Color scheme

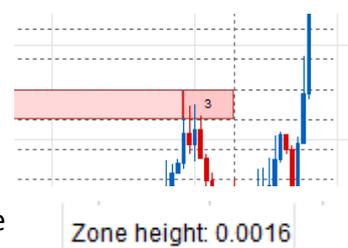
After installing *Support Resistance Strength Analyzer*, ensure you choose the appropriate color scheme for your chart background.



Display settings

Support resistance type – leave on 'All' unless you only want to see support or resistance levels, or only those which have acted as both.

Display zone boundary lines – shows upper and lower zone boundaries. Can be useful to extrapolate zones to the current price bar when calculations haven't yet gone that far.



Display zone height – will show the actual height of zones at the top right corner of the screen.

Display strength values – it's useful to have this on so that zones show the strength values as numbers drawn inside the rectangles.

Display data for first 200 bars only – should be turned on if you find that the chart draws too slowly, or you want to reduce clutter on the chart. All loaded price data will still be used for calculations, even if this setting is on.

Always show borders for single strength zones – borders will be drawn for the single strength zone when both single zone and multi-zones are displayed, to distinguish between them. They won't be drawn by default when single height is drawn alone to reduce interference with the display of price data. You can set rectangle borders to always be drawn if you prefer.

How to analyze a chart

SRSA can be used in various ways. The method below is one suggestion for how a chart can be analysed using this indicator.

The aim of this process is to find the strongest support/resistance region on a chart near current price and choose appropriate boundaries for this region if needed.

1. Load chart and choose threshold

The first step is to choose a trading instrument and timeframe, and load enough data to work with.

As described earlier, the zone threshold size should be chosen based on what size reversals a trader is looking for. This setting will determine which zones are shown. Generally, once a setting is chosen that the trader is comfortable with, it can be left at that setting.

Remember that the term 'zone' in this user manual refers to a rectangle of a specific height and a 'region' refers to an area of multiple overlapping zones.

2. Use multi-zone heat map to find a strong support/resistance region near current price

It is suggested to have the 'Minimum strength display' set to at least 2, otherwise it may give too many zones on the chart, with many being 'weak' zones of 1 strength only.

Choose 'Mode: multi-zone heat map only' from the settings or contextual menu (right click on the chart). This will display all four zone heights at once and give an overview of where the support/resistance regions may be on the chart. Strength values aren't shown in this mode due to the overlapping zones. When zones overlap, the smallest one is drawn on top. On a light background chart, the darker areas have the strongest strength values and on a dark background, the lighter areas will be the strongest.

Different sized overlapping zones of strong colors are likely to be the regions with the highest support/resistance strength values. If nothing takes the trader's interest near current price, they may want to choose another instrument or timeframe.

Example 1

Let's walk through an example. Below is a chart of EUR/USD 15 min in multi-zone heat map mode. The green support region is probably worth looking at further in case price gets down there again. It has a number of different overlapping zones, with at least one being dark in color. A resistance region exists near the top of the chart with a dark area in the middle. This can be investigated later if price gets closer. Let's look at the support region in more detail, as current price is closer to it.



3. Examine a region in more detail using single zone heights

If a trader finds a region they want to examine further, they can switch to 'Mode: Both'. This displays a single zone height drawn over the multi-zone display. Then choose 'Cycle through zone heights' from the contextual menu. Each time this option is chosen, the 'Zone height' will increase. When it gets to 'Very large', it will cycle back to 'Small' again.



The minimum strength display may need to be increased to help view only the strongest zones.

Remember that there are four zone heights in the multi-zone display, and each single zone setting will show one of these at a time. Cycling through them enables each one to be examined individually.

4. Use a strength selection criteria

The following criteria could be considered while cycling through the zone heights:

- 1) How large the strength values are close to current price.
- 2) How this zone has behaved going back in time and if this zone has repeatedly maintained high strength values which have been increasing.
- 3) How many of the four zone heights have large strength values which overlap. This region should have been chosen due to the strong overlapping multi-zone colors, so the strength of each individual zone height can now be evaluated.

If a region is found which has multiple sized zones with high overlapping strength values and these zones have shown strength going back in time, then it may be considered to be a region with strong support/resistance characteristics. Only the trader can decide if they want to use this level for trading if price comes back to it. Looking back at the past performance of similar support/resistance levels on that timeframe, for that trading instrument, may be useful in assessing probabilities using the trading method that the trader has decided to use.

It may also be useful using this analysis method on a higher timeframe (example given later). If a similar support/resistance region exists on a higher timeframe, then it could add strength to the identified region. In this case the boundaries may need to be expanded to incorporate the larger area, or trading could be based solely on the higher timeframe if that region looks more attractive.

Going back to our example, let's cycle through the four zone heights to examine each one.

'Small' zone height with a minimum strength setting of 2.



'Medium' zone height



'Large' zone height



'Very large' zone height



Let's now consider this region using the example selection criteria.

- 1) Only one zone has a value of 3, the others are 2.
- 2) On this 15 min chart, the region formed about a day ago. It held a few times back then but price hasn't been near the level since.
- 3) All zone heights have strengths of at least 2, but only one has a strength of 3. Larger would be better.

5. Choose support/resistance region boundaries

Depending on how a trader wants to use this information in their trading, they may need to decide on an upper and lower boundary for the region they have identified.

Ultimately the trader will have to decide on these, but the multi-zone heat map could be used with a suitable minimum strength display to filter out the low strength zones. The boundaries could be set to encompass the highest strength zones as shown below.

The final step would require back testing to see how this instrument has reacted at similar support levels in the past using the trading method the trader plans to use.

Going back to our example, the boundaries could be the upper and lower region from the multi-range heat map.



Or the strongest zone can be used to create a tighter area, as this zone had to most reversals going back in time.



If this instrument showed examples in the past of repeated profitable reversals from similar regions with strengths of 2 and 3, then it may be worth trading. If higher strengths gave better results, then it may be worth waiting for a better setup.

6. Managing new price data

Once a region has been identified, it is important to check it regularly for changes. As discussed previously, SRSA will use all loaded price information for its price calculations. If more historical price data appears, then the indicator will recalculate. It is therefore recommended to use the same amount of loaded data each time to produce consistent results.

The second instance which will cause regular recalculations is when price makes new highs or lows. In this case, price won't be approaching any support or resistance regions based on loaded data, so there won't be any trading opportunities available. It is therefore best to wait for price to start retracing to an existing region before starting analysis.

While price is between the high and low of all the loaded data, the support/resistance zones should be relatively stable. A reminder to take note of the calculation line which shows where calculations are up to. It will progressively move forward and update recent price data as new price bars form (see example at right).



Example 2

This is GBP/USD on a 4 hour timeframe in multi-zone mode. A number of resistance zones appear to overlap with at least one being a strong red color. Price is currently close to this region. A couple of support areas exist below, but they don't look very strong. Let's examine them further.



Mode: 'Both' setting with 'Small' zone height and a minimum strength setting of 2. Several resistance zones show up with the most recent having a strength of 3.



Changing the zone height to 'Medium' only shows the recently formed support area with a strength of 2.



Increasing the zone height to 'Large' reveals two resistance zones near current price. One just recently formed which has a strength of 2 and just above it is a strength 3 zone which has persisted for a while, changing between 3 and 2.



Increasing the zone height to 'Very large' shows the resistance area increasing progressively from 2 to 5.



Using the strength selection criteria, the resistance area looks quite strong because it has resulted in price reversing from it several times with three of the four zone heights being able to detect the reversals. The 'Very large' zone height was able to capture all the reversals with the most recent strength of 5. The support area was only detected by one zone height and only had a strength of 2, which doesn't give it much strength. The resistance zone therefore shows some characteristics of being a strong resistance region. The boundary which could assist with trading could be set at just above and just below the 'Very large' zone setting area.

Again, the final step would be to back test similar regions using the trading method the trader chooses to determine the probabilities of a profitable trade. This may include appropriate stops and targets.

Considering higher timeframes

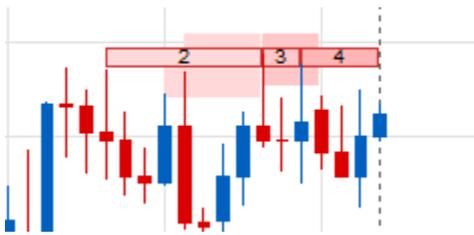
Even though SRSA doesn't use timeframes other than the one currently chosen, it may be worth looking at a higher timeframe to see if the same support/resistance area shows up.



The chart at left is the multi-zone heat map daily timeframe of Example 2 (which was a 4 hour timeframe of GBP/USD). The same support/resistance region showed up on this timeframe too.

The next four charts show each zone height using the 'Mode: Both' setting.

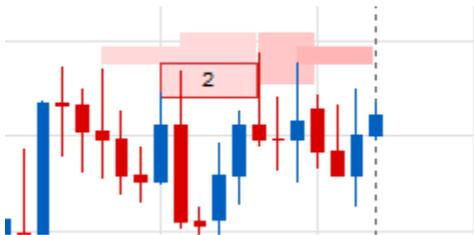
'Small' zone height



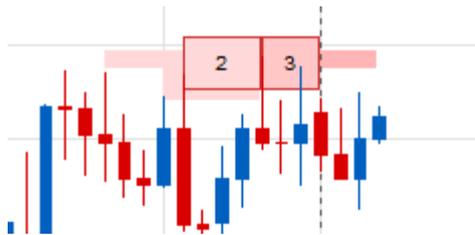
'Medium' zone height



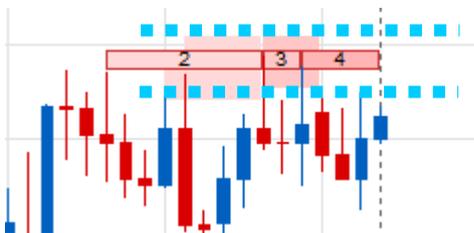
'Large' zone height



'Very large' zone height



The 'Small' zone height shows a strength of 4 and 'Very large' a strength of 3 right up to the calculation line. 'Small' on this time zone is probably equivalent to 'Very large' on the 4 hour timeframe. This suggests that this resistance region is probably visible to traders looking at the daily timeframe as well. This adds strength to the region on the 4 hour chart. The trader has the option of using the daily timeframe or the 4 hour timeframe if they decide to trade this region. If using the daily timeframe, the boundary could be expanded to encompass most of the region including the 'Very large' zone height.



Summary

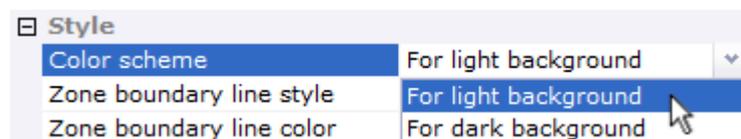
The analysis technique described is only one example of how SRSA can be used. The main points were to try to develop a consistent approach and ensure that it is back tested with the trading instrument and timeframe and using the trading method that the trader chooses, to get an idea of the probabilities of the setup working.

SRSA doesn't give trade signals, but rather tries to provide support/resistance regions which may increase probabilities of reversals from those regions. Using these regions for trading could be achieved by combining them with other trading methods designed for use at support and resistance levels. Examples may include candle stick patterns, trend line convergence or other indicators which signal trend direction changes.

FAQ

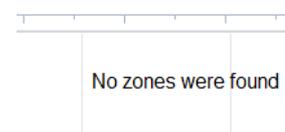
The indicator draws very dark (or very light) zones and the text is hard to read

Change the 'Color scheme' setting in the 'Style' section to 'For light background' or 'For dark background' to match your chart.



Why has nothing drawn on the chart?

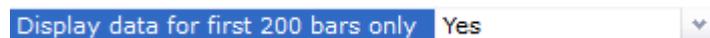
A notification at the top right corner of the screen will advise you when no zones were found to draw. This is more likely to occur with a large threshold setting, a large zone height and/or a 'Support resistance type - Both at once' setting.



The other possibility is that not enough data values were loaded. At least 200 values are needed before calculations can be made. Again, you will be notified if not enough data is available.

My chart draws slowly and is difficult to scroll

This indicator carries out a lot of calculations behind the scenes which may slow down drawing. Setting the 'Display data for first 200 bars only' to 'Yes' should speed up chart drawing. All loaded data will still be used in calculations.



When I scroll the chart, the zones appear to get larger

Zones are calculated by using all the loaded data and dividing the vertical price chart range into a set number of zones. If more data is loaded, and the vertical range increases, then the zones will get larger. To be consistent, work with a set number of loaded data bars.

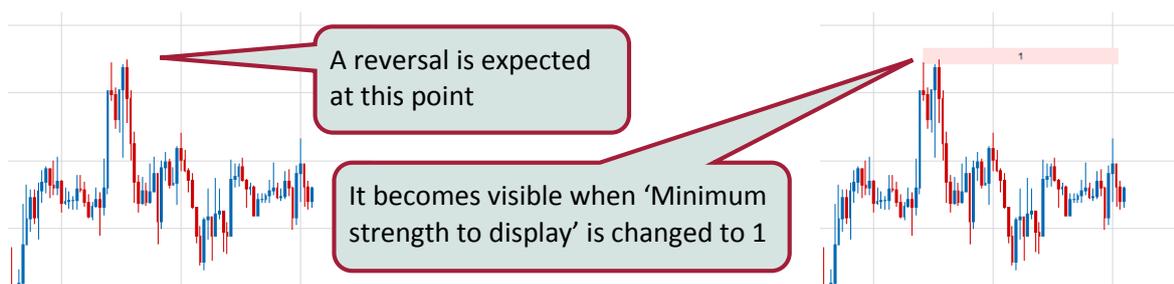
How do I choose what threshold setting to use?

Generally a small zone threshold will suit people who are more interested in analyzing the smaller moves. Larger zone thresholds detect levels over larger price ranges with reversals which moved a long way from the zone. This setting is most suitable for people interested in analyzing the larger moves. The table below summarises what happens at different settings.

	Small	Large
Zone threshold	A small setting will result in price only needing to reverse by a small amount to be considered a reversal and will likely result in many zones. Suitable for people wanting to gain a detailed view of support and resistance levels with small moves from those levels.	A large setting means price needs to reverse a long way to be considered a reversal and will likely result in fewer zones. Suitable for people interested in analyzing larger moves and getting a more macro view of support and resistance levels.
	<i>Price needs to move further from a zone to be considered a reversal</i>	

Why does an obvious price peak not show a support or resistance level?

You probably have 'Minimum strength to display' set to a value larger than 1. If you set it to 1, you will likely see a single strength level there. If you don't, then the move away from this zone was smaller than the threshold and didn't satisfy the reversal criteria.



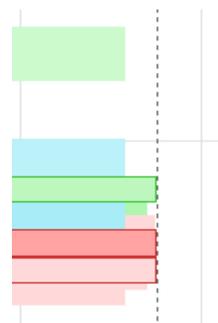
Why do the zones change when price is making new highs or lows?

SRSA works by dividing the entire vertical price range of loaded data into zones of a particular size. Therefore, if price makes new lows or highs (relative to the loaded data), the zones will recalculate. As the vertical price range increases, so do the zone sizes, as they expand slightly to include the new data. If you are watching a lower timeframe chart (such as 1 or 5 minute), you will see the zones changing when price makes new highs or lows. During this time, it is normal for a support or resistance zone to change size or strength as the zone adjusts to the new data.

As price makes new highs or lows (relative to the loaded data), no support or resistance regions will have been identified outside of the current price range, and be available for trading, so the fact that the indicator keeps readjusting shouldn't be an issue. When price moves back into areas it has been before, the indicator will have stabilized and readjustments will only occur if data scrolling changes the amount of data available for calculation.

Why do zones end at different places?

All single height zones are drawn to the same place, but the zones which are part of the multi-zone display may end at different points. A certain amount of data is needed before calculations can be made, therefore a zone is drawn to the last place that calculations were carried out at, which may not always be the current bar. The dotted vertical line shows the point where calculations are up to for the single zone display. It isn't shown when only multi-zones are displayed.



Can I use this indicator for trading signals?

The *Support Resistance Strength Analyzer* was designed to provide general information on support and resistance levels and does not provide entry and exit signals. It is therefore not recommended to be used solely as a method to base trading decisions on.

The powerful analysis provided by this indicator reveals that support and resistance zones may hold for a number of sequential reversals, but may then fail a number of times degrading the zone's strength. The point at which a zone starts to fail is likely to be difficult to predict. Therefore a trader should not blindly place trades at every level, but rather add methods to increase the probabilities of detecting reversals.

This may be achieved by combining other trading methods designed for use at support and resistance levels. Examples may include candle stick patterns, trend line convergence or other indicators which signal trend direction changes. A signal given by one of these methods at an area identified as a strong support or resistance region may provide higher probability signals. Thorough back and forward testing of any new system, using a particular trading instrument and timeframe, is recommended before using it with real trades.

Settings

Calculation

Mode

Single zone height only – divides the chart into zones of a particular height.

Multi-zone heat map – draws four different zone heights on top of each other from largest to smallest. This option is designed to provide an overview of support/resistance strength before examining a region in more detail.

Both – draws a single zone overlaid on the multi-zones. Zones within the single zone setting will be visible as bordered rectangles.

Zone threshold

Small (1 zone height) – price needs to reverse by at least one zone height to be considered a reversal. Useful for a detailed analysis.

Medium (2 zone heights) – price needs to reverse by at least two zone heights to be considered a reversal.

Large (10% of entire vertical price range) – price needs to reverse by at least 10% of the entire vertical price range of loaded data to be considered a reversal.

Very large (20% of entire vertical price range) – price needs to reverse by at least 20% of the entire vertical price range of loaded data to be considered a reversal. Useful to detect support/resistance zones which have resulted in relatively large moves and likely to have held the longest.

Zone height

Small, Medium, Large, Very large (default is 'Small').

A setting of 'Small' will use a small zone height which is likely to result in many zones being drawn. You can select the 'Display zone height' setting to view the actual height value displayed at the top right of the screen.

A setting of 'Very large' will use a very large zone height which will likely result in fewer zones.

Display

Support resistance type

Support only – only displays zones which have acted as support (green).

Resistance only – only displays zones which have acted as resistance (red).

Both at once – only displays zones which have acted as both support and resistance (blue). This will likely result in few (if any) zones being displayed.

All – displays all the options above together.

Display zone boundary lines (Yes/No) – draws lines to show where the zone boundaries are.

Display zone height (Yes/No) – will display the zone height as a value at the top right of the screen.

Minimum strength to display (1-4) – filters the number of strengths which a zone must have to be drawn. '2' means that only zones of strength 2 and above will be drawn.

Display strength values (Yes/No) – will display numbers in the zones representing the number of times a support or resistance area has held (by the threshold amount).

Display data for first 200 bars only (Yes/No) – this setting is available to speed up chart drawing if needed. If set to 'Yes', zones for only the first 200 bars will be drawn, however all loaded data will still be used in calculations.

Always show borders for single strength zones (Yes/No) – by default borders around the single height zones will only be drawn when single height and multi-zone are both drawn to distinguish between them. They won't be drawn by default when single height is drawn alone to reduce interference with the display of price data. If this option is set to 'Yes', borders will always be drawn around zones for single height display.

Style

Color scheme – allows the color scheme most suitable for a light or dark chart background to be set.

Zone boundary line style – enables a choice between various styles for the zone boundary lines.

Zone boundary line color – enables the zone boundary line color to be set.

Important Information:

The *Support Resistance Strength Analyzer* indicator was designed to provide general information on support and resistance levels and does not provide entry and exit signals. It is therefore not recommended to be used solely as a method to base trading decisions on.

Financial trading, especially involving leveraged instruments such as foreign exchange, involves considerable exposure to risk of financial loss. Depending on individual circumstances, this loss may be more than the trader's initial investment. You should therefore carefully consider your investment objectives, level of experience and risk exposure. Most importantly, do not invest money you cannot afford to lose.

It is the trader's responsibility to fully understand the trading instruments they plan to use, the markets they are going to trade in, and any tools or systems they plan to base trading decisions on. It is recommended that they seek the advice of a professional financial advisor before undertaking any form of trading.

The software products provided by Innovative Indicators are to be used entirely at the trader's own risk. It is recommended that any trading decisions which are based on information provided by the indicators are only made after extensive risk analysis is undertaken by the user, using methods such as back and forward testing and trading using a demonstration account. Past performance, whether actual or indicated by historical tests of strategies, is no guarantee of future performance or success.

Innovative Indicators undertakes all reasonable efforts to provide high quality products, however due to the nature of software development, it cannot guarantee that any of its products are free from bugs or are fit for any purpose. It also cannot guarantee that any of its products will result in any minimum level of performance when used.

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